

### LISTING OF CLAIMS

1. (Currently Amended) A neurological vaccine comprising:  
a vector comprising a nucleic acid sequence encoding for ~~a neuroreceptor~~ an N-methyl-D-aspartate (NMDA) antigen capable of being expressed in a subject, such that the expressed antigen elicits production of antibodies in a circulatory system of the subject, wherein the antibodies pass across a blood-brain barrier into a central nervous system upon injury, or disease or excessive neuronal activity, thereby providing neuroprotection to the subject.
2. (Original) The neurological vaccine of claim 1, wherein the produced antibodies bind to, and modify a function of a target protein in the central nervous system, to thereby ameliorate or prevent onset of a neurological disorder in the subject.
3. (Original) The neurological vaccine of claim 1, wherein the antigen is an NMDA receptor.
4. (Original) The neurological vaccine of claim 1, wherein the antigen is NMDAR1.
5. (Currently Amended) The neurological vaccine of claim 2, wherein the neurological disorder is stroke. ~~stroke.~~
6. (Original) The neurological vaccine of claim 2, wherein the neurological disorder is epilepsy.
7. (Original) The neurological vaccine of claim 1, wherein the vaccine is a viral vector vaccine.

8. (Original) The neurological vaccine of claim 1, wherein the vaccine comprises a viral vector selected from the group consisting of an adenovirus vector, a herpes virus vector, a parvovirus vector, and a lentivirus vector.
9. (Original) The neurological vaccine of claim 8, wherein the viral vector is an adeno-associated virus vector.
10. (Original) The neurological vaccine of claim 1, wherein the vaccine is a preparation for oral administration.
11. (Original) A method for modulating a neurological disorder, wherein said method comprises the step of administering the neurological vaccine of claim 1 to a subject.
12. (Currently Amended) A method for ameliorating a neurological disorder condition in a subject comprising:  
administering a vaccine comprising a vector comprising a nucleic acid sequence encoding for ~~a neuroreceptor~~ an N-methyl-D-aspartate (NMDA) antigen, wherein the antigen elicits the production of antibodies in a circulatory system of the subject which modify the function of a target protein in the central nervous system, to thereby ~~improve the neurological condition of~~ provide neuroprotection to the subject.
13. (Original) The method of claim 12, wherein the antigen is an NMDA receptor.
14. (Original) The method of claim 12, wherein the antigen is NMDAR1.
15. (Currently Amended) The ~~genetic-vaccine~~ method of claim 12, wherein the neurological disorder is selected from the group consisting of epilepsy, stroke, or decreased cognition.

16. (Currently Amended) A genetic vaccine comprising genomic DNA of an N-methyl-D-aspartate (NMDA) antigen and a pharmaceutical acceptable carrier, wherein the genetic vaccine provides neuroprotection to a subject by eliciting ~~elicits~~ production of antibodies in a circulatory system of a the subject which ameliorate or prevent onset of a neurological disorder in the subject.

17. (Original) The genetic vaccine of claim 16, wherein the antigen is an NMDA receptor.

18. (Original) The genetic vaccine of claim 16, wherein the antigen is NMDAR1.

19. (Original) The genetic vaccine of claim 16, wherein the neurological disorder is selected from the group consisting of epilepsy, stroke, or decreased cognition.